

**AMENDMENTS TO THE CLAIMS**

**This listing of claims will replace all prior versions and listings of claims in the application:**

**LISTING OF CLAIMS:**

Claims 1- 9. (cancelled).

10. (currently amended): A rotation angle detection device comprising:  
a stator provided with a one-phase excitation winding and two-phase output windings;  
and  
a rotor having salient poles,  
~~characterized in that~~wherein the two-phase output windings are wound around a plurality of teeth of the stator, and  
respective numbers of turns of the two-phase output windings are obtained by using m-phase windings-(, where m is an integer of 3 or more), the m-phase windings being defined in advance to convert the numbers of turns of the m-phase windings into those of two-phase windings.

11. (currently amended): A rotation angle detection device according to claim 10,  
~~characterized in that~~wherein, when the numbers of turns of the m-phase windings-(, where m is an integer of 3 or more), are converted into ~~those~~ of two-phase windings, the conversion is performed according to the following expression:

$$N_{\alpha i} = k \sum_{n=1}^m N_{ni} \cos\left(\gamma + \frac{2(n-1)}{m} \pi\right)$$
$$N_{\beta i} = k \sum_{n=1}^m N_{ni} \sin\left(\gamma + \frac{2(n-1)}{m} \pi\right)$$

(where  $\gamma$  represents an arbitrary constant,  $k$  represents an arbitrary constant excluding zero, a subscript  $i$  represents a number of a tooth,  $\alpha$  and  $\beta$  represent two-phase windings after conversion, and  $n$  represents  $n$ th phase before conversion. ~~In other words,  $N_{\alpha i}$  and  $N_{\beta i}$  represent the number of turns of the  $\alpha$ -phase and  $\beta$ -phase windings in the  $i$ th tooth, respectively, and  $N_{ni}$  represents the number of turns of  $n$ th phase winding of the  $i$ th tooth.~~)

12. (currently amended): A rotation angle detection device according to claim 10, ~~characterized in that~~ wherein the number of teeth of the stator is ~~assumed to be  $3n$~~ , where  $n$  is a natural number).

13. (currently amended): A rotation angle detection device according to claim 10, ~~characterized in that~~ wherein, in the case in which when the number of teeth of the stator is an odd number, a winding pattern of the excitation winding is a pattern repeated by ~~the number of times of~~ a number which is the same as a value of a divisor of the number of teeth.

14. (currently amended): A rotation angle detection device according to claim 12,

~~characterized in that~~wherein the number of teeth of the stator is nine, and a shaft multiple angle is 4 or 8.

15. (currently amended): A rotation angle detection device according to claim 13 ,  
~~characterized in that~~wherein the number of teeth of the stator is nine, and a shaft multiple angle is 4 or 8.

16. (currently amended): A rotation angle detection device according to claim 12,  
~~characterized in that~~wherein the number of teeth of the stator is twelve, and a shaft multiple angle is 4 or 8.

17. (currently amended): A rotation angle detection device according to claim 10,  
~~characterized in that~~wherein the numbers of turns of the two-phase output windings are adjusted such that the two-phase output windings do not pick up a magnetic flux of a spatial order which is the same as a spatial order of a change in permeance of the rotor or a magnetic flux of a spatial 0<sup>th</sup> order.

18. (currently amended): A rotation angle detection device according to claim 10,  
~~characterized in that~~wherein the numbers of turns of the two-phase output windings are adjusted such that the two-phase output windings do not pick up a specific component of a gap magnetic flux which is generated when a rotation shaft of the rotor and a center of the stator

deviate from each other ~~or when a center and the rotation shaft of the rotor deviate from each other.~~

19. (currently amended): A dynamo-electric machine, ~~characterized by comprising:~~  
~~the~~ rotation angle detection device according to claim 10 having a stator provided with  
a one-phase excitation winding and two-phase output windings and a rotor having salient poles,  
wherein the two-phase output windings are wound around a plurality of teeth of  
the stator, and  
respective numbers of turns of the two-phase output windings are obtained by  
using m-phase windings, where m is an integer of 3 or more, the m-phase windings being  
defined in advance to convert the numbers of turns of the m-phase windings into those of two-  
phase windings.